

FIG. 3

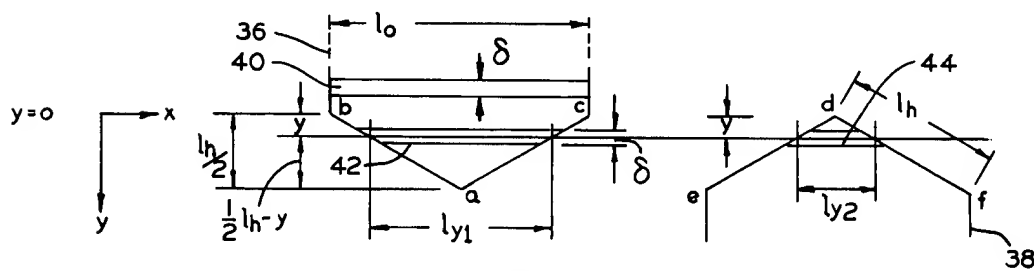


FIG. 4

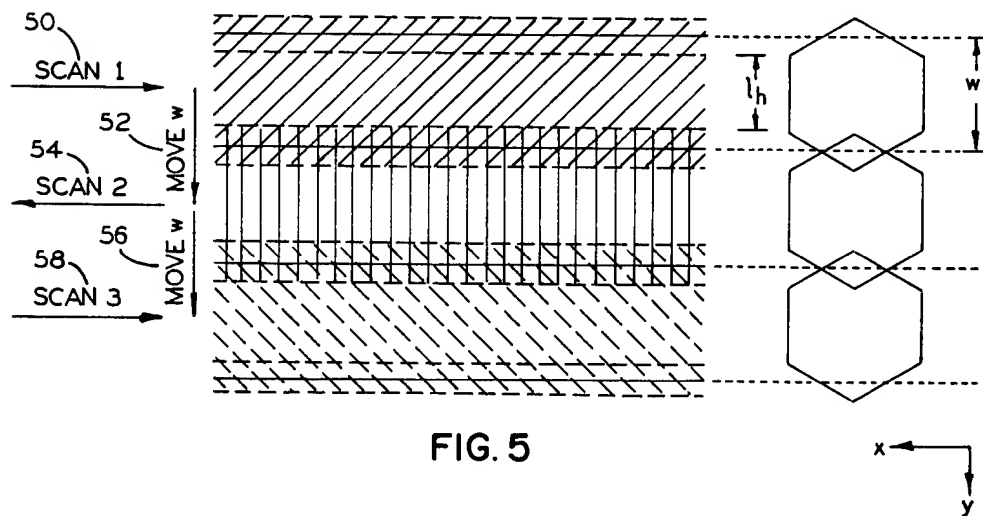


FIG. 5

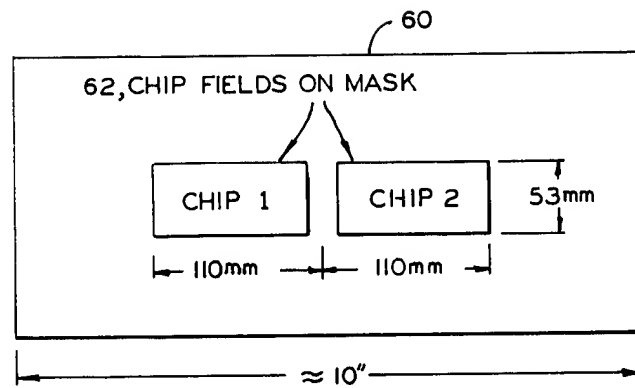


FIG. 6

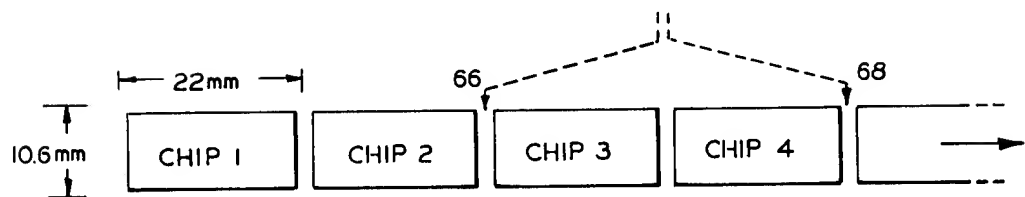


FIG. 7

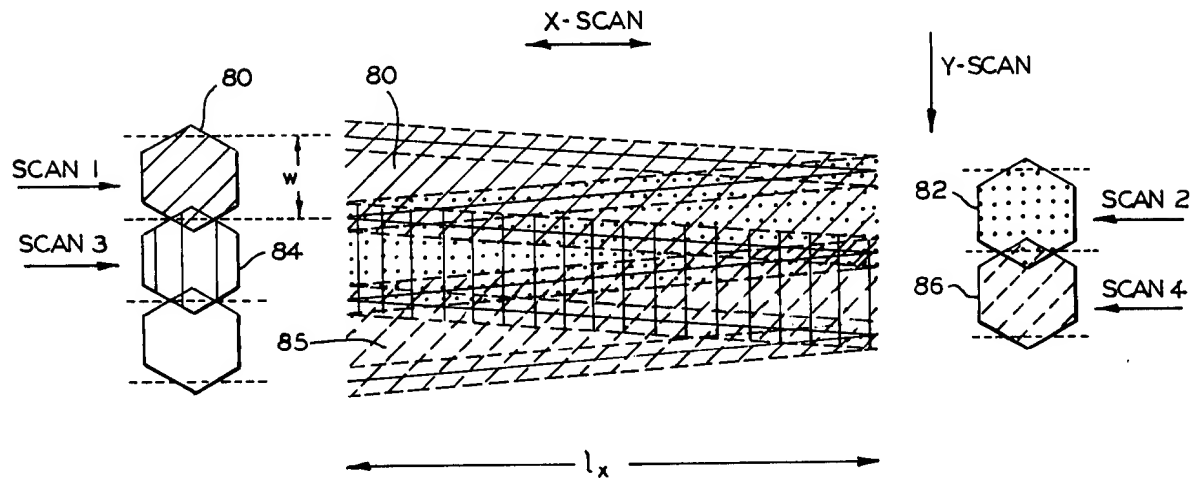


FIG. 9

FIG. 8A

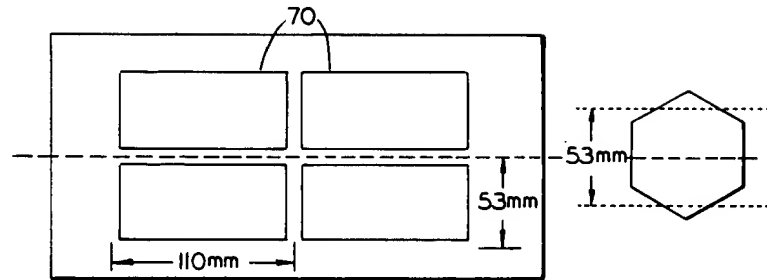


FIG. 8B

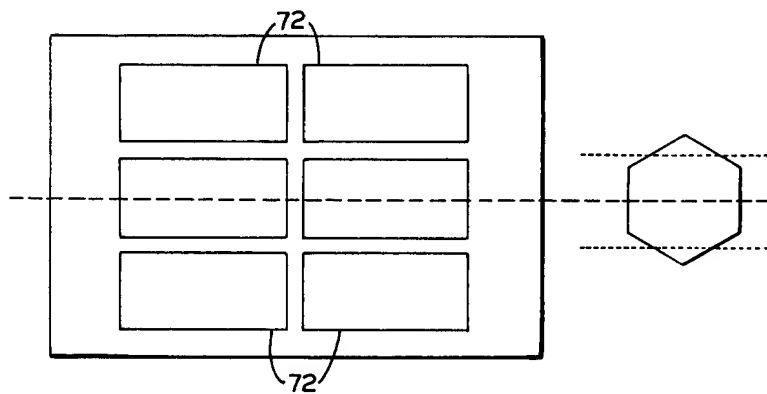


FIG. 8C

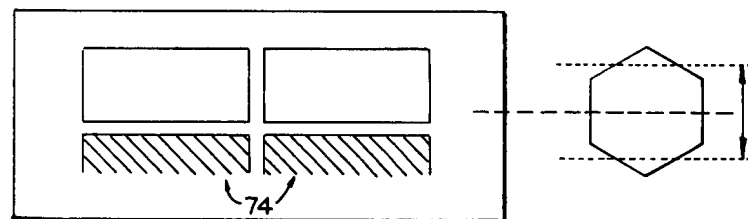


FIG. 8D

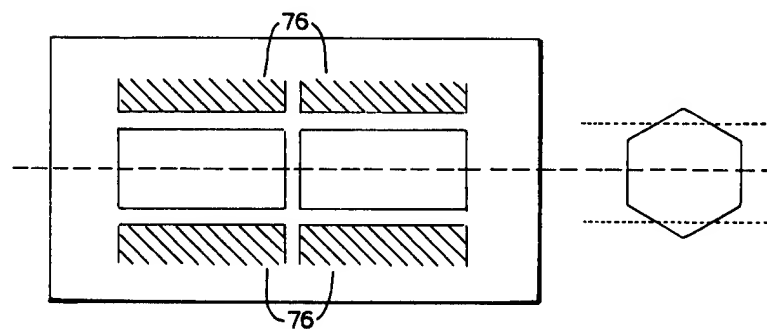


FIG. 8

TABLE I

D_s = RESIST SENSITIVITY (mJ/cm^2)	10			50			100		
f = LASER PULSE REPETITION RATE (Hz)	303	204	98	303	204	98	303	204	98
N = NUMBER OF OVERLAPPING PULSES	37	25	12	37	25	12	37	25	12
E_w = ENERGY DONS. / PULSE AT WAFER (mJ/cm^2)	0.27	0.40	0.83	1.35	2.00	4.17	2.70	4.00	8.33
e_w = ENERGY PER PULSE AT WAFER (mJ)	0.35	0.52	1.08	1.76	2.60	5.42	3.51	5.20	10.8
P_w = POWER INCIDENT ON WAFER (mW)	106	106	106	530	530	530	1060	1060	1060
P_L = LASER POWER (W)	0.53	0.53	0.53	2.65	2.65	2.65	5.30	5.30	5.30

FIG.10

TABLE II. WAFER THROUGHPUT CALCULATION

WAFER DIAMETER (mm)	CHIP SIZE (mm x mm)	NUMBER OF CHIPS ON WAFER	THROUGHPUT (WAFERS/HR)		
			EVERY SITE ALIGN	EVERY 4th SITE ALIGN	EVERY 10th SITE ALIGN
125	10.6 x 22	52	68.7	97.8	105.9
150	10.6 x 22	75	54.0	81.3	90.2
200	10.6 x 22	134	34.9	57.0	65.2

FIG.11